

CHAPTER 3

EMPIRICAL RESEARCH

3.1 INTRODUCTION

The previous chapter dealt with the fundamental nature of healthy school environments. It was necessary to discuss the determinants of a healthy school environment, the legislative framework that guides the creation and development of these environments and the importance of maintaining healthy school environments especially in the era of HIV/AIDS.

This chapter outlines the procedure that was followed to gather data that is relevant to the primary aim of this research, which is how effective School Management Teams are in the management of healthy school environments in the Gert Sibande District, in the Mpumalanga Province. Based on the fact that all scientific research is conducted within a specific paradigm, it was crucial to start by exploring the research paradigm which is used in this research as a foundation on which the empirical research is constructed (*cf.* 3.2).

The focus of the chapter is on the methodology, the techniques and procedures used in the process of gathering data which are used as a basis for interpretation. First and foremost I analysed the chosen research method (*cf.* 3.3).

Secondly, the research strategy (*cf.* 3.4), data collection procedure (*cf.* 3.5), research participants (*cf.* 3.5.2), data collection methods (*cf.* 3.5.3) and data analysis (*cf.* 3.5.5) were discussed. Lastly, a conspectus of the main issues that I was faced with, regarding ethics (*cf.* 3.6), trustworthiness (*cf.* 3.8) and the limitations of the study (*cf.* 3.7) were dealt with.

3.2 RESEARCH PARADIGM

The research paradigm for this study is an interpretive. De Vos *et al.* (2011: 5) indicate that the social sciences can be viewed as those sciences that deal with a particular

phase or aspect of human society, or that involve the study of people, their belief, behaviour, interaction and institutions.

De Vos *et al.* (2011: 6) on the other hand indicate that the interpretive social science can be traced to the German sociologist Max Weber and the German philosopher Dilthey, who argue that there are two fundamentally different types of science, the natural sciences and the human sciences. The former type is based on abstract explanation. The latter is rooted in an empathetic understanding of everyday lived experience of people in specific historical settings which is one of the reasons for the choice of this paradigm.

Hermeneutics according to De Vos, *et al.* (2011: 6) emphasize a detailed reading or examination of text, which could refer to a conversation, written words or pictures. In this research the text refers to the transcribed interviews, documentation and pictures taken from the participating schools. I conducted a reading to discover meaning embedded within text. De Vos, *et al.* (2011: 6) maintain that when studying text, the researcher or reader tries to absorb or get inside the viewpoint it presents as a whole, and then develop a deep understanding of how its parts relate to the whole. In other words, true meaning is rarely simple or obvious on the surface, one reaches it only through a detailed study of the text, contemplating its many messages and seeking the connections among its parts.

My aim for choosing the interpretivist approach was to offer a perspective of the management of healthy school environments and to analyse the situation under study, to provide insight into the way in which school managers and educators make sense of their effectiveness in managing health programmes. One of the strengths of this approach is the richness and depth of explorations and descriptions (Nieuwenhuis, 2010: 60).

The research paradigm informed the design, data collection tools, participant selection and data analysis and interpretation.

3.3 RESEARCH METHOD

The method of research for this study is the Qualitative research method. Creswell (2009: 4) says that qualitative research is a means for exploring and understanding the meaning, individuals or groups ascribe to a social or human problem. McMillan and Schumacher (2006: 315) indicate that qualitative research is concerned with understanding social phenomena from participants' perspectives. I achieved this understanding by analyzing the many contexts of the participants and by narrating their meanings of situations and events.

Maree (2007: 50) describes qualitative research, as research that attempts to collect rich descriptive data in respect of a particular phenomenon or context with the intention of developing an understanding of what is being observed or studied. I therefore focused on how participants view and understand the management of healthy school environments and construct meaning out of their experiences.

According to Maree (2007: 51) qualitative research typically studies people or systems by interacting with and observing the participants in their natural environment and focusing on their meanings and interpretations. I had three sessions with each of the participants; the interviews were conducted at schools after contact time. Instead of observation I opted for photographs. The rationale behind taking photos was not to disturb learners and school staff. These photos were therefore, taken outside school hours when all learners and educators had left.

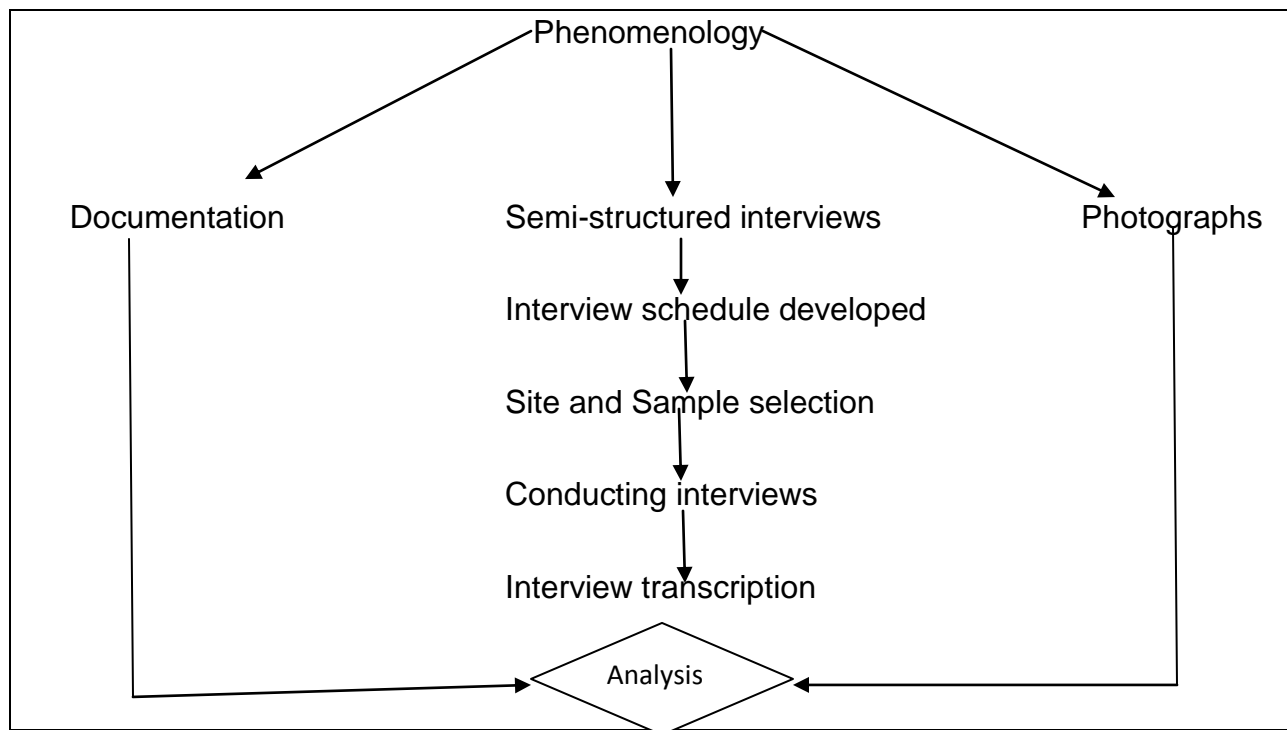
3.4 STRATEGY OF INQUIRY

The research design for this study is phenomenology. Leedy and Ormrod (2005: 139) define phenomenology as a study that attempts to understand people's perceptions, perspectives and understandings of a particular situation. Creswell (2009: 8) indicates that the phenomenological approach aims to understand and interpret the meaning that subjects give to their everyday lives. Phenomenology is a study that describes the meaning of experiences of a phenomenon, topic or concept for various individuals. Eventually, the researcher utilizing this approach reduces the experiences to a central

meaning or the essence of the experience and the product of the research is a description of the essence of the experience being studied (Creswell, 2007: 57; Bentz & Shapiro, 1998: 96). In order to accomplish this, I had to enter the participants' life world or life setting and place myself in the shoes of the participants. This is mainly done by means of naturalistic methods of study, analyzing the conversations and interaction that researchers have with participants. As meanings are constructed by human beings as they engage with the world they are interpreting (Creswell, 2007: 57), I had to use open-ended questions so that the participants can share their views.

De Vos *et al.* (2011) further add that researchers using this strategy will mainly utilize long interviews with up to ten people as methods of data collection. Multiple individuals (*cf.* 3.5.2.1) who had experience of how healthy school environments are managed, were identified. The diagram below summarizes the research methodology used in this study.

Figure 3.1: Summary of research method



3.5 DATA COLLECTION PROCEDURE

With the understanding that humans make sense of their world based on their historical and social perspectives, I visited the sites of the participants to gather information personally and to understand their context.

3.5.1 Site selection

I obtained information in advance from the Gert Sibande District, with regards to the schools' participation in the Eco project and their involvement in the promotion of healthy environments. Four sites were selected for the purpose of this study; three primary schools and a secondary school. Three schools were in the same area, two primary schools and a secondary school; whilst one school, the primary school, was in a different area. The rationale of purposefully selecting these schools was based on the kind of rich data I expected to unearth from these sites.

- **School A: Former disadvantaged school**

This school is located in the township of eMbalenhle, next to Secunda. The area is one of the economic hubs of Mpumalanga, because of companies and big business going on, like SASOL, a number of gold and coal mines, and a casino amongst others. This seems to be one of the oldest schools in the area, and the only Sesotho medium school. It is surrounded by well built houses, and the road infrastructure is better than the other two primary schools. The school is built with face bricks. The front part of the school and area surrounding the administration block is green and well cared for. The lawn is well kept, with flowers and trees decorating the area. At the back of the school there is a sport ground and a vegetable garden, although not well tended. The school has a well maintained wire fence.

Figure 3.2: Surroundings in school A



The photo indicates the well kept surroundings, the trees and well maintained lawn.

The school has 853 learners, and 23 educators (four male and nineteen female educators) excluding grade R. The Senior Management Team (SMT) members are four including the female principal and deputy principal. There is only one male in the SMT.

The school is part of the Green Cage and Eco Schools' project that are sponsored by SASOL. The project started in 2008, it mostly targeted primary school educators, and two educators were trained per school. The intention of the project is to maintain a healthy school environment, by keeping the environments clean, and by taking active part in the cleaning and recycling projects. The project requires the development of a portfolio of evidence that indicates activities which the school undertook in maintaining a healthy school environment. In order for the school to be part of the project it has to register for participation with Wildlife and Environmental Society of South Africa. In incorporating the project into teaching, teachers are expected to prepare environmental

friendly lesson plans, where they would teach about the environment whilst addressing their content in class. These lesson plans form part of the portfolio of evidence that the school presents for assessment. The portfolio, amongst others, includes photos taken during the course of implementing activities such as cleaning campaigns, celebrating special days like Arbour Day and during planting time in the garden project. Preparation of a portfolio is a year's project, because there is a theme allocated yearly. School A was part of the Eco schools programme and qualified for an Eco Green Flag in 2011, which meant that they were internationally recognized as participating in the programme.

The portfolio is assessed by Wildlife and Environmental Society of South Africa, and an official from the Department of Education. Depending on the performance of the school, awards are awarded according to the following categories: gold, silver and bronze (green flag). The school achieved immensely by attaining bronze in 2009 and silver in 2010. The community participates in the garden projects and in attending the celebration of important days. The community also benefits when the environment is attended to during cleaning campaigns, and by the information they get on how to address environmental challenges. Learners also participate in cleaning projects, celebrating important days and recycling projects.

The school has established the following committees: Environment, Sports, School, Feeding Scheme and HIV/AIDS. In the words of the Deputy Principal who is the pivotal player in the project, "All in all, it is a wonderful project. It gives us awareness and gives knowledge on how to address environmental issues."

- **School B: Former disadvantaged school**

This school is in Standerton, Sakhile Township. It is situated in the informal settlement, where most of the parents are unemployed. This is a no fee school, and it is the only school interviewed that does not take part in the Green Cage and the Eco Schools projects. The rationale of selecting this school was because of its location in the squatter camp, but also its location outside the jurisdiction and the support of private

company S, to see how the school addresses its environmental issues. The school is built in face bricks, and there are additional shack classes that have been built, with the intention of accommodating the huge number of learners. The road going to the school is gravel and all surrounding streets, and this makes it difficult to access the school especially during rainy seasons. The majority of the structures around the school are shacks, with few decent houses, and a few RDP houses.

The school was established in 1994 and has an enrolment number of 1057 learners, and 33 teachers including the SMT. The male and female split is; 6 male and 27 female teachers. The SMT members are 8, with 3 males and 5 females, including a male principal, and a male and female deputy principal. Although the school had spacious surroundings the vegetable garden was unattended to. The trees are still small, there is no grass, only the ground throughout the premises. The wire fence is still intact, except for minor maintenance that should be made.

Figure 3.3: Surroundings in school B



The photo indicates the surroundings at School B. This is a primary school located in a developing area (squatter camp). The picture shows school surroundings that are not well kept with papers on the ground. The lawn is also not maintained.

The committees that are available at school include the following: Environment, Sports, School Nutrition, Soul Buddies and Health and Wellness.

- **School C: Former disadvantaged school**

This school is located in the township of eMbalenhle, next to Secunda. It is situated in a well to do area of the township, surrounded by bond houses, and the road is tarred. It is the only Sesotho secondary school in the area.

The roll of the school is 1438 learners and 49 teachers including the SMT. The split between male and female teachers is 17 males and 32 females. The total number of SMT members is 11, with 6 males 5 females, including 2 male deputy principals. Due to the huge number of learner enrolment, toilets are in a bad shape. The school is a double-storey building except for the administration block. It is built with face brick and looks new. The school is well secured with a wire fence that was still well maintained. The surroundings were very clean and well cared for. The school was well decorated with trees and flowers in front of the administration block, which, in turn were well maintained. The area in front of the administration block was paved, with a gate locked all the time by the grounds man to maintain order, and only opened during breaks and when there was a compelling reason to open it. The back part of the school yard was just open land without trees or vegetable garden. The school has established the following committees: Sport, Welfare, Environment and Nutrition.

The school was part of private company S Green Cage and Eco Schools project from 2008, but was no longer involved during the time of the interviews. The private company S Green Cage and Eco Schools project as indicated above recycles paper and plastic, with the purpose of contributing to healthy surroundings at schools. The school was part of these projects when they started, but discontinued a few years later. They then

decided to remain with the Green Cage project because it only deals with recycling, without committing to the development of a deadline and submission of a portfolio.

Figure 3.4: Surroundings in school C



The photo shows the surroundings of school C, the administration block and a double storey building of classes.

- **School D: Former disadvantaged school**

This school is located in Secunda, eMbalenhle Township. It is situated in a developing informal settlement. It is developing in the sense that, it is surrounded by a mixture of shacks and Reconstruction and Development Programme houses. A number of parents are also unemployed.

The school's administration block is facing the opposite side of the main entrance gate, and as a result not so welcoming, which is a misleading impression, because as one comes into the area where the administration block is facing, one would be pleasantly surprised by how the area is tidy and well cared for, and decorated with flowers and well kept lawn. This area gives a different impression on what is seen in front. The wire fence in front although still standing, needs maintenance. On the other side of the school there is a huge vegetable garden which is maintained by parents. Parents were found there during the time of the interview process.

The school has a roll of 1364 learners. The number of educators is 40 including the SMT members, with 15 males and 25 females. The number of SMT members is 8, including a male principal, a male and a female deputy principal and 3 male and 2 female Heads of Departments.

Figure 3.5: Surroundings in school D



The photo shows the surroundings of school D, with a lawn that is well kept and single storey buildings (classes).

The school was part of the Eco School Project when it started in 2008. Educators were work-shopped on what the project entailed, they were also given hand outs that gave information on how to go about the project. The best school would be given awards, the highest medal the school got was bronze, and then certificates of participation. The school also received a number of cleaning campaign certificates in 2004 and 2005. After being work shopped with other schools that were part of the project they were taken on a tour to Pretoria to visit a place specializing in environmental issues, so that they could get first hand experience on what was expected of them. The learners' toilets are well taken care of; this includes the kitchen, which is separately allocated into the shack. Parents and learners were active participants in the garden project and cleaning campaigns, learners are also part of celebrating important days.

The following are the committees that have been established: Sport, Green Cage, Feeding Scheme, Health, Environmental and Nutrition.

After I indentified the schools, I made a formal visit to the principals of these schools to request for permission to conduct research. I told them briefly what the aim of my visit was and then gave them letters requesting for permission. The contents of the letter included information about me as a researcher; the general uses of data and the protection of the rights of participants (*cf.* Appendix 4). Once authorization was granted (*cf.* Appendix 3) I disengaged myself from the leadership of the school. I then started with my research role which included sample selection.

3.5.2 Research participants

The research participants were chosen from the four schools mentioned above.

3.5.2.1 Sample selection

Non probability type of sampling was employed in this research. According to Terre Blanche *et al.* (2006: 139), non probability sampling refers to any kind of sampling where the selection of elements is not determined by the statistical principle of randomness. De Vos *et al.* (2010: 328) argue that in non probability sampling the odds of selecting a particular individual are not known because the researcher does not know the population size or the members of the population. My focus was on selection of information-rich informants who were knowledgeable and informative about how healthy environments are managed in their schools, therefore, purposive sampling was suitable.

De Vos *et al.* (2010: 202) indicate that in purposive sampling a particular case is chosen because it illustrates some feature or process that is of interest for a particular study. Sampling in this research was based entirely on my judgement, in that the sample was composed of elements that contain the most characteristic, representative or typical attributes of the population. Participants were selected based on their participation in the Eco school programme and or other school health programmes for promotion of healthy environments. The selection of the schools to be part of the study was based on the data they would produce.

De Vos *et al.* (2010: 202) argue that this type of sampling is based entirely on the judgment of the researcher, in that a sample is composed of elements that contain the most characteristic representative or typical attributes of the population.

3.5.2.2 Sample size

The number of public schools (primary and secondary) in the Evander Sub-District is eighty three. This number includes public schools and former model C schools, but excludes all farm schools. The actual number of schools that took part in this study was four in all, and they were all from the Gert Sibande District, in particular the Evander Sub-District. There were three Primary Schools and one Secondary School. Twenty one participants took part in this study.

Table 3.1 Sample

No of schools	Committee and Individuals interviewed	No of participants	Schools
4 (3 Primary and 1 Secondary School)	Environmental	4 (participants 1, 11, 16 & 17 chairpersons)	A, B, C, & D
	Sport	3 (participants 5 & 12 chairpersons, 18 secretary)	A, C & D
	SMT	3 (participants 2, 9 & 15 all Heads Of Departments)	A, B & C
	Health	3 (participant 6 chairperson, 3 & 21 members of the committee)	A & B
	Nutrition	3 (participants 8, 14 & 19 chairpersons)	B, C & D
	Soul Buddies	1 (participant 10 chairperson)	B
	LO Educator	4 (participants 4, 7, 13 & 20 educators)	A, B, C & D
TOTAL		21	

Regarding the table above:

- The names of the committees and their duties differ from one school to the other. There are schools that do not have the Health committee and the duties of this committee are allocated to other existing committees such as the Environment committee or the Nutrition committee. It is mainly the prerogative of the school as to how they structure their committees and duties they allocate to such committees: Hence the differences from one school to the other. In some instances the same duties tend to overlap.

- Out of all the participants as indicated above, the gender split is as follows: 18 females and 3 males. Males are specifically from the following schools; 1 (School A), 1 (School C) and 1 (School D).
- Different educators in their respective post levels were interviewed. 18 Post level one educators (including 3 Life Orientation educators) from School A (5), School B (5), School C (4) and School D (4).
- The SMT member at school D could not be interviewed because he was absent, those who were present were not eager to take part, including the principal.

3.5.3 Data collection methods

3.5.3.1 Interviews

According to McMillan and Schumacher (2006: 352), a phenomenological interview is a specific type of in-depth interview used to study the meanings or essence of a lived experience among selected participants. I selected this method to understand the insiders' viewpoint. This strategy included a single long comprehensive interview with each participant.

In-depth interviews according to McMillan and Schumacher (2006: 353), are noted more for their probes and pauses than their particular question formats. The following helped me in connecting with the participants and eliciting valid data: establishing trust by being open about the intention of the study, being genuine and maintaining eye contact with the participants.

Semi structured interviews were used in the collection of data, and mainly one to one interviews. De Vos *et al.* (2010: 287) say interviewing is the predominant mode of data or information collection in qualitative research. He states that one interviews because s/he is interested in people. De Vos *et al.* (2010: 296) also maintain that in general, researchers use semi-structured interviews in order to gain detailed picture of a participant's beliefs about, or perceptions or account of, a particular topic. The method gives the researcher and participant much more flexibility. I was able to follow up

particular interesting avenues that emerge in the interview, and the participants were able to give a fuller picture. Maree (2011: 87) added to say, the semi structured interview is commonly used in the research projects to corroborate data emerging from other data sources, such as in photographs and documents in this research. My reasons for choosing semi-structured interviews were based on the purpose to obtain the participants' perceptions, feelings, thoughts and concerns about the management of healthy environments in their schools. It was also necessary to obtain information about their future expectations, to verify and extend the information obtained from other sources, and to verify and extend the hunches and ideas developed by the participants or by me.

An interview guide was used in this research. McMillan and Schumacher (2006: 351) maintain that in the interview guide approach topics are selected in advance, but the researcher decides the sequence and wording of the questions during the interview (*cf.* Appendix 5).

3.5.3.2 Photographs

Photographs are regarded as supplementary techniques by McMillan and Schumacher (2006: 359). McMillan and Schumacher (2006: 359) argue that photographs are especially useful for validation, as they document non-verbal behavior and communication and can provide a permanent record. Photographs that were taken in this research were of the school surroundings, toilets, buildings, food gardens, needy learners receiving food packages and the first aid kits.

3.5.4 Data collection procedure

Schools were phoned first to inform them about the research before letters of request could be written, talking about the possibility of including them as part of the study. I then personally delivered the letters requesting for permission (*cf.* Appendix 2). After telling them about the aim of the research, the permission was granted (*cf.* Appendix 3). I physically went to schools to build a rapport, and meet for the first time with the

participants on an informal basis. Then I sat down to discuss dates and times for the interview. After developing a schedule and having it checked by the supervisor, I called the schools again, to check whether the dates were still compatible. After confirming with them, I started with the first school.

3.5.4.1 Data capturing

A tape recorder was used during the interviews, to record the interviews. I ensured that I was in possession of new tape recorder and checked if it was working before the each interview session started. McMillan and Schumacher (2006: 355) argue that tape recording the interview ensures completeness of the verbal interaction and provides material for reliability checks.

The use of a tape recorder did not eliminate the need for taking notes to help in the reformulation of questions and probes. Whilst recording the interview, I was also taking noting notes which I would later use to verify information from the tapes.

3.5.4.2 Transcribing

After each session I tried my best to transcribe, shortly after the interviews, before forgetting and losing touch with the information. I would listen to the tape, and write, rewind and write again. At times the participant would not be audible enough, and therefore it would be a struggle to hear. The transcribing process was arduous. At one time I tried to secure the services of a private person, but many mistakes were made, therefore decided to do it myself. Transcribing involved writing verbatim what the participants said even their laughing was texted.

After transcribing from the tape recorder, it was then read a number times, so that the researcher could have a clear understanding. Transcripts that are included in the Appendix (*cf.* Appendix 6) are from two schools, A and C. I had a hundred and thirty pages of transcribed raw data, I decided to include data from only two schools as this document would be too big.

3.5.5 Data Analysis

According to Creswell (2009: 184), data analysis is an ongoing process involving continuous reflection about the data. Cohen *et al.* (2007: 368) indicate that once data from different sources has been collected, the next stage involves analyzing them by some form of coding. Data analyses involved a process of breaking down data into smaller sensible units to reveal their characteristic elements so that meaning could be made. Leedy and Ormrod (2005: 150) concur with this process of breaking down data into their constituent parts but further state that connections can be made between concepts, thereby providing the basis for new descriptions. McMillan and Schumacher (2006: 364) also argue that qualitative data can be broken down by means of coding, categorizing, and interpreting data to provide explanations of a single phenomenon of interest.

3.5.5.1 Analysis of interview data

Data analysis in this research was done in steps. The first step was intended to make sense of the raw data. Before I started working on the data, I had to make a print of the transcripts so that I can have a hard copy of the interviews. It was after reading the transcripts a number of times, that I started making sense of the text. I then managed to identify common aspects. Whilst reading, the main aspects that were coming out of the data were highlighted in different colours, so that I could identify common aspects that were emerging. These were codes that were developed directly from examining the data. To trace connections, I wrote all the categories on a flipchart, the idea was also to get the categories spread out in front of me so that I could draw lines to indicate how they were connected. After looking carefully at the categories and identified how each was linked or related to other categories I gave each category a name using words from the text. I had to read the transcripts to check for quotes that support the category or theme. After identifying the underlying themes by separating the data into main ideas I had to discuss them with the supervisor to see if they make sense.

The second step included thematising, in order to bring some order and structure into themes identified. Identifying themes was not enough; I still had to go through them again, to ensure that themes identified were relevant to my study. Some topics after being found that they do not have any relation to the topic, were rearranged under different themes. At the end the themes became very clear from the text, and I had to refine them several times until I was satisfied that they were correctly placed, and above all that they addressed the research question which was to establish how effective the SMT were in the management of healthy school environments, in the Gert Sibande District, in Mpumalanga Province (*cf.* 4.3).

The third step included determining the process of analysis to be used. The inductive process was used in identifying themes in this research. MacMillan and Schumacher (2006: 364) and Nieuwenhuis (2010: 99) maintain that the main purpose of using the inductive process in the analyses of qualitative data is to allow the research findings to emerge from the frequent, dominant or significant themes inherent in raw data, without the restraints imposed by a more structured theoretical orientation.

The inductive process used in the identification of themes in this research is indicated in the table below:

Table 3.2: The coding process in inductive analysis

Initial read through text data	Identify specific segments of information	Label the segments of information to create categories	Reduce overlap and redundancy among the categories	Create a model incorporating most important categories
Many pages of	Many segments of	30-40 themes (<i>cf.</i> Appendix 7)	15-20 Themes (<i>cf.</i> Appendix 8)	4 themes

Text (130 pages)	Text			
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Adapted from Creswell (2002: 266)

The hundred and thirty pages of the transcripts could not be attached to this dissertation as the document would be too big, only the transcripts of data obtained by means of in-depth interviews from two schools was attached (*cf.* Appendix 6).

The data yielded four themes. These were:

- Schools were at different levels regarding compliance to policy (*cf.* 4.3) - I was expecting this kind of theme based on my experience with schools as an educator for 15 years and as a facilitator at the district for 5 years. There is a gap between policy development and policy implementation at schools.
- Collaboration was hindered by lack of leadership (*cf.* 4.3) – I think this theme addresses a larger theoretical perspective. It stimulates thinking about a kind of leadership that operates beyond the institution and across local systems. This theme indicates that contexts pertaining to school leadership are changing and new models if the existing ones are inadequate need to be developed.
- The general management of health programmes was not effective (*cf.* 4.3) – I was also not expecting this, my assumption was that management at these schools were better equipped to manage programmes because of the training and the support they get from local communities.
- There was no synergy among educators, learners and SMT members regarding promotion of health (*cf.* 4.3) - My experience with working with schools is that learners are not playing any role in the implementation of programmes at schools. My assumption was that educators and SMT members would be able to work together.

3.5.5.2 Analysis of photographs

Photographs are regarded as supplementary techniques by McMillan and Schumacker (2006:359). They also argue that photographs are useful for validation, as they document non verbal behaviour and communication and can provide a permanent record.

As photographs were used to validate data that was collected by means of interviews, they were coded and thematised.

3.6 ETHICAL CONSIDERATIONS

McMillan and Schumacher (2006: 334) advise that a credible research involves not only selecting participants and effective research strategies but also adhering to research ethics. I therefore, had to have a clear plan on how to handle the ethical dilemma in interactive data collections. The ethical considerations in this research were divided into four categories, those that focus on the research participants (*cf.* 3.4.1); institution/s (*cf.* 3.4.2); scientific integrity of the research (*cf.* 3.4.3); and domain specific ethical issues (*cf.* 3.4.4).

3.6.1 Ethical consideration with regard to participants

Informed consent – In order to gain permission from the research participants I first had to describe the intended use of the data, then assured them of confidentiality of the information, and anonymity with regards to the identities and schools where they teach. McMillan and Schumacher (2006: 334) maintain that, the settings and participants should not be identifiable in print. Thus, locations and features of settings are typically disguised to appear similar to several places, and researchers routinely code names of people and places. How participants' names, schools and companies were coded in this research is indicated in Chapter 4 (*cf.* 4.3). Coding was done to protect the participants' confidence from other persons in the school setting and also to protect them from the general reading public.

3.6.2 Ethical consideration with regard to institutions

Permission to conduct research- The Mpumalanga Department of Education has established a research unit in the provincial office, for the purpose of coordinating all research done in the schools within its jurisdiction. In conducting this research, a letter of request (*cf.* Annexure A) was written to this unit, and their letter acceding to the request was received, the letter further pledged support to the study, with the hope that the findings would be shared with the department. A final copy of this dissertation will be submitted to the Mpumalanga Department of Education.

During the course of the first interactions with the research sites, ethical considerations were clearly communicated to the school principals and all participants. The assurance was given to them that, their names will not be explicitly written in print, their views will be treated as confidential, and that the names of their schools will not be identified in print. This commitment, contributed positively to the interview atmosphere, because it gave them freedom to openly and comfortably air their views.

3.6.3 Scientific integrity of the research

No deception – Data is not fabricated in this research, all data indicated came from the responses of the research participants from the interviews and documentation obtained from schools. The data was also not manipulated to support a personal position. All participants gave consent to the audio taping of the interview data.

No plagiarism – The data from the literature review was not plagiarized, all sources are indicated and are authentic.

3.6.4 Domain specific ethical issues

The domain specific ethical issues relate to research methodology and design. Interviews as data collection method in this research were done only with informed consent, explicit confidentiality agreements and the application of a rigorous analytical process to ensure that valid and supportable conclusions were drawn.

3.7 LIMITATIONS OF THE STUDY

De Vos *et al.* (2010: 118) say that potential limitations are often numerous even in the most carefully planned research study and it is important that they be listed.

Numerous limitations were experienced in conducting the research. The fact that the researcher usually go to these schools as an official, to monitor and support the implementation of curriculum, this time was different, because the official went to these schools as a researcher. Some schools were still not comfortable to share crucial information, because they could not separate the two roles, this was a barrier. Although the interview was a one to one scenario, educators were not comfortable sharing information about their colleagues, including their heads of departments and principals. Principals did not want to be part of the interview, they preferred to abdicate the responsibility, and mostly those who were sent to represent the principals, failed to answer a number of questions.

The findings of this research are not generalisable to the population from which it was drawn due to the fact that only few schools were involved and that the sample was not representative of the population. It was however, not the intention of this study to generalize but to understand the phenomenon from the perspective of the participants.

3.8 TRUSTWORTHINESS

Credibility – Terre Blanche, Durrheim and Painter (2006: 91) purport that credibility of a research is established while the research is undertaken. Credibility is alternative to internal validity, in which the goal is to demonstrate that the inquiry was conducted in such a manner as to ensure that the subject was accurately identified and described. Credibility in this research was ensured by use of triangulation. Different data collection sources were used to corroborate, elaborate or illuminate the research in question. These sources included interviews, documentation and photographs. Research participants were also given a chance to comment on the information presented regarding sites, research findings, interpretations and findings. The study was also

designed in such a manner that multiple informants (*cf.* 3.5.2) were used to greatly strengthen the study's usefulness for other settings.

Transferability- It is called external validity or generalization, in which the burden of demonstrating the applicability of one set of findings to another context, rests more with the investigator who would make the transfer, than the original investigator (Terre Blanche *et al.*, 2006: 91; Nieuwenhuis, 2010: 114). Transferability was ensured by producing detailed and rich descriptions of contexts (*cf.* 3.5.1), the intention was to give readers detailed accounts of the structures of meaning which developed in a specific context. These understandings can be transferred to new contexts in other studies.

Dependability- Terre Blanche *et al.* (2006: 93) refer to dependability to the degree to which the reader can be convinced that the findings did indeed occur as the researcher say they did. Dependability was achieved through rich and detailed descriptions of the data procedure and sites selection. I also provided statements of the methods used to collect and analyse data (*cf.* 3.5; *cf.* 3.5.5).

Conformability- According to De Vos *et al.* (2005: 346), the construct of conformability captures that traditional concept of objectivity. It has to do with whether the findings of the study could be confirmed by another, or whether the data help to confirm the general findings and lead to the implications. The use of triangulation in this research helped in reducing the effect of bias. The audit trail is included in the Appendix (*cf.* Appendix 6; Appendix 7 & Appendix 8).

3.9 CONCLUSION

This chapter explained how the process of empirical research unfolded from beginning to end, starting with the research paradigm, research design, and the research method. Issues that gave the study legitimacy such as ethical considerations, selection of sites and trustworthiness, amongst others, were also dealt with. This chapter gave an overview on how the empirical research was planned and ultimately implemented on the ground.

The next chapter deals with data analysis and interpretation.